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SOME ACCOUNT
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OF THE

ASIATIC CHOLERA,

CHOLERA ASPHYXIA OR PULSELESS PLAGUE;

WITH A SKETCH OF ITS PATHOLOGY AND TREATMENT AND

ADVICE,

RELATIVE TO ITS PREVENTION ON PLANTATIONS, PREMONI-
TORY SYMPTOMS AND TREATMENT.

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LEA,

LESS PLAGUE,

OF TREATMENT AND



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T. M. D.

PRINTED

PREFACE.

I AM fully sensible of the difficulty of giving such instructions to the public as would enable them to use medicinal substances advantageously. As it respects the treatment of diseases in general, all efforts of the kind have been found unavailing.

This is not surprising, when we reflect, that an extended and minute knowledge of the properties of medicinal agents,—the structure and functions of the human system—the manner its complicated machinery is affected by different diseases—how these vary with age, sex, season, climate, constitution and circumstances—requiring different remedies in different stages, even of the same affection,—can never be acquired without a long course of patient investigation, professional training and actual experience. Nevertheless, in a disease which affects the system so peculiarly as *Cholera*, that gives, nearly always, the same warning of its attack, manifests itself in all latitudes and seasons by a few leading symptoms, easily recognised, runs its course in from four to sixteen hours, giving no time for delay, and requires for its cure the fulfilment of *only one plain indication*, it seems to me, that some good might be done in complying with the wishes of my friends, in giving the public my views on the subject.

Having, heretofore, given written instructions, with a view to enable any one to act efficiently in the absence of a physician, or when medical aid cannot be had; and having already been informed, that actual ex-

perience, where Cholera is prevailing, has proved their utility, I find myself compelled from the number of applications, to resort to the facilities afforded by the press, as it is impossible to draw up for each a separate memorandum in manuscript, that would embrace all the points respecting which advice and information have been requested.

Several of my medical acquaintances, living in remote situations, have requested.

First.—Some account of the Cholera in reference to its history, contagion, &c.

Secondly.—A succinct view of its pathology and treatment as set forth by the best authors, and also my own views.

Thirdly.—Many of my friends at a distance and of the surrounding neighborhood, particularly Planters, have desired to be informed of the means best calculated to prevent Cholera among negroes on plantations—to mitigate its violence if it should occur—the premonitory symptoms, and the treatment necessary—and also the means to be resorted to in an attack of Cholera before a physician can arrive—and the whole plan of treatment necessary when remote situation or other causes render it impossible to procure a physician at all—together with such a plain description as would enable overseers or other persons to distinguish *Asiatic Cholera* from the common *Cholera Morbus* and other diseases.

Fourthly.—The medicines and things necessary to have always at hand, especially on plantations remote from any physician or apothecary.

FIRST—Some account of the Cholera.

As a general rule, which has few or no exceptions, a Diarrhœa or some considerable disturbance of the bowels *always* precedes an attack of Cholera, and this Diarrhœa is *always* a curable complaint.

The appearance of Cholera in a community, so far from spreading terror around it and depressing the public mind with gloom and despair, should give every individual all the confidence, which a consciousness of being able to ward off evil, invariably inspires.

In Philadelphia, containing a population of 170,000 individuals, no more than 858 deaths, in a whole month, occurred from Cholera, during its prevalence in that city, between the 28th of July and the 28th of August last. Yet nearly the whole population had the premonitory symptoms. In Baltimore, the ratio of mortality was but little, if any greater, than in Philadelphia. In Washington City, the irruption of the disease took place during the prevalence of the usual autumnal fevers, made them assume its livery, and prevailed more extensively than it otherwise would. Hence, Dr. *Henderson* of that city, has given us an account of a remittent, intermittent, continued and typhoid form of the Cholera. In New Orleans, the disease likewise made its appearance during the sickly season, which circumstance accounts for its ravages not being confined exclusively to those whose systems were predisposed to it by profligacy, destitution, intemperance and imprudence. If reports are to be credited, the streets of New Orleans had not been in a more filthy condition, during the recollection of the oldest inhabitants, than at the breaking out of the Cholera. The appearance of frost, the great purifier of a miasmatic atmosphere, arrested almost instantaneously, the dreadful havoc, which Cholera, aided by the miasms of a yellow fever atmosphere, was producing in that city. In Cincinnati, Louisville and Vicksburg, its appearance during the sickly season of the year, no doubt added considerably to its mortality, which however, was not greater than what has often occurred from an epidemic bilious fever. When we turn to Albany, Brooklyn, Utica, Trenton, New Haven, Boston, and most of the towns and cities of the United States, which have experienced more or less of the disease, we find, the opinion long cherished, fully verified, "that in the *Land of Free-men* the pestilence would be disarmed of most of its terrors."

In Canada, the mortality was very great, particularly among the recent emigrants. During the last spring and summer, more than *forty thousand* emigrants arrived at Quebec, mostly poor and destitute, having no shelter but temporary booths, damp, crowded and filthy.

While the legislature of New York was enacting laws against the importation of Cholera into that portion of the state adjoining Canada, the disease suddenly broke out among the prisoners in the city of New York, its first appearance in the United States, and produced so great a panic, that about *seventy thousand* citizens fled from their homes! From the confusion and alarm consequent on the removal of so great a number of citizens, the premonitory symptoms were too much neglected, and up to the 29th of August, *two thousand six hundred and ninety-three* deaths occurred among the remaining inhabitants. Of a thousand troops who left New York, to go against the Indian chief Black Hawk, not one half reached the upper Mississippi. Notwithstanding the aggravated malignity of the Cholera among the soldiers, who dispersed and died in the settlements and on the road side, it is confidently affirmed, that the disease did not spread among the people and was not communicated to a single individual out of the army.

From the history of Cholera in Asia, we learn, that it begins in a point and spreads all around at the rate of about two miles a day, regardless of winds or weather, intercourse or non-intercourse; forming a circle of greater or less extent; disappearing in the centre of the circle in about twenty-five days, and re-appearing at irregular intervals. Having reached the limits itself prescribes, it shoots off in a straight direction, following some high way or water course, navigable or not, confining itself to such high way or water-course, until having arrived at some other point, containing an impure atmosphere, spreads as an epidemic to a limited extent around, leaves it, progresses onward, often returning to visit some places it has passed by, and occasionally resting, as it were, in its journey over the world.

Dr. Meikle of Edinburg long a medical officer in India, informs us that: "The Marquis of Hastings lost on the banks of the Sinde, about 5,000 men and followers, *in six days*, out of a total of from eighty to ninety thousand. He moved 50 miles to a high station and had not a single fresh case in camp. Col. Agnew, in the Nagpoore country, made only one short march with his detachment, who were suffering severely, and encamped on high ground near a village, after which he had not a single case, nor did the villagers get it."

From George Hamilton Bell, Dr. Meikle and other medical officers of the East-India company's service we are informed, that at some ferries of particular rivers few detachments have halted without suffering. In such cases the disease breaks out in the tent next to the river, and has extended to the third tent nearest the margin of the water, leaving all the rest untouched.

The disease has been known to commence capriciously at half a dozen places from 50 to 500 miles of one another and leave them in the same way. It confines itself sometimes to a part of a town, or one side of a market place; or to a few companies on one wing of an army,

continues among them near a month, without affecting a single individual of the other wing

At Hydrabad and other places it first attacked the people *out side* of the city, and carried off thousands, long before it attacked them *in side*, although there was a constant communication. In August and September, 1817, the Cholera came within a very short distance of Benares, the holy city of the Hindoos. The inhabitants of the infected district hastened by thousands into Benares, which contained in 1823, twelve thousand brick and stone houses six or more stories high, sixteen thousand mud houses, and 582,000 permanent inhabitants. Yet this city was not visited by the pestilence until eight months after it had come almost up to its gates.

There are some circumstances, which at first view, apart from accidental coincidences,—so attractive to feeble minds as to make them relish inconsistencies and look for the causes of war in the accidental appearance of a comet, or the yellow fever, in doing what Adam did, exposing fresh earth to the sun,—might induce the belief that Cholera is contagious, viz; Persons going on board ships, steam boats and other vessels coming out of a Cholera region, having the disease on board, are liable to take it. This may look like contagion. It can be accounted for, however, on other principles. The atmosphere in the boat or ship, being constantly contaminated by the effluvia arising from the decaying vessel itself or animal and vegetable matter putrefying thereon, gives the *substantive cause* of Cholera efficiency, keeps it alive and in action, or in metaphorical language, feeds the fire with fuel. Experience already proves, that old boats, in a foul and decaying state, have suffered most severely with Cholera, long after they have got out of the Cholera region; whereas, new and clean boats have suffered scarcely any. The principle of contagion will not account for this fact, nor will it explain the reason, why Cholera patients, taken out of a Cholera region into the midst of large families, will not communicate the disease; nor why the nurses and attendants of those ill with the disease, even in a Cholera region, are not more liable than other persons to take it.

He who would desert a sick friend, when required by humanity to lend his assistance, would not only be left without excuse, but would be even more liable to be overtaken by the scourge he fled from, than if he went where duty called him. Stifling the best feelings of human nature through fear, debilitates the physical energy of the heart, and creates a susceptibility to the disease; whereas a conscientiousness of right, the pleasurable feeling of doing good, and a ready compliance with the generous impulses of humanity, brace the nerves and give a more than common vigor to the heart, enabling the system the better to resist the causes of disease, and in some instances, concentrated contagion itself. That moral causes, though much overlooked, exercise a

great influence on the physical system of man, no medical philosopher will controvert.

There is another circumstance which the history of Cholera unfolds necessary to be known and remembered. Like epidemics, the Cholera is always more violent and fatal on its first appearance in a place; and though *it retains its formidable array of symptoms*, yet it loses by degrees its malignant nature, and is finally almost as easy to cure as a common colic. This is more particularly the case, whenever in any place it assumes its epidemic character; for it shows itself in many places without becoming properly speaking, epidemic.

From this circumstance, no reliance whatever can be placed on the nostrums and specifics so confidently trumpeted forth to the world as infallible cures. Such things only succeeding in the milder forms of the disease, and always failing when sinking nature requires efficient assistance. Hence the reputation, that such nostrums gain in one city, is always lost in another, and a new remedy starts up to share the same fate. The Cholera patient, who would trust his life exclusively to such nostrums, would be as unwise as he, who would let go his foot hold on the rock of Science to plant it in sand on the brink of a precipice.

It is very important that the public have correct information of the nature of the evil which hangs over them. The pestilence which spread terror through Asia, Europe and the British dominions in America, and swept from existence more than sixty millions of human beings, overleaping all the barriers erected against it by the despotic powers of Europe, finally fell almost powerless at the feet of 170,000 citizens of Philadelphia, who had no other protection, than cleanliness, temperance, fortitude and science. Whenever in its progress public intelligence and science have been brought to co-operate against it, it has become almost an airy nothing—scarcely able to interrupt for a day the ordinary business of the town or village; but speeds onward to some other place, whose citizens blind to experience are wasting their energies in building walls against it, or taking no measures against breathing an impure atmosphere and neglecting the premonitory derangements of their systems.

Whatever may be the cause of Cholera, its history informs us that a damp, confined and impure air gives efficacy to its cause; and want, exposure, intemperance, fevers, terror or whatever disturbs the balance of the circulation, gives it subjects. The efficient cause of Cholera is unknown. Some suppose it to be emitted from the earth; others that it is generated in the air. In my opinion, it is a *moving non-electric meteor*. But whatever it may be, its history shows, that ever since 1817, it has like an evil genius, been wandering ever the globe waging war against the intemperate, slothful, imprudent and terrified; if in its erratic course, it occasionally strikes down any one of a different class, living in a wholesome atmosphere, it is a mere accident, a random shot;

But when armed with its artillery, mouldering damps, confined animal exhalations, and atmospheric miasms, all classes and orders fall before it. I now come in the second place to give a succinct view of the symptoms, treatment, and pathology of Cholera as set forth by the best authors—with some observations and remarks of my own.

Among those who have written on the subject of Cholera, the work of George Hamilton Bell, (Fellow of the Royal College of Surgeons, Edinburg, and Assistant-Surgeon in the Presidency of Madras, from 1818 to 1827, and who subsequently witnessed the disease in Europe,) stands deservedly conspicuous. This work evinces not only experience and learning, but an original vigor of mind, without which experience teaches but little, and learning seldom arrives at useful results.

Among the premonitory symptoms of Cholera, as it manifested itself in Asia, he enumerates, deafness—change of expression in the countenance—tormina of the bowels—an uncomfortable sensation of heat at the pit of the stomach—oppression at the chest—listlessness—weak pulse—cold feet and hands—and one or more unnatural alvine discharges. This he calls the 1st stage. In the 2d stage the eyes are sunk—the lips blue—features shrunk—patient feels unwell—has peculiar stools, probably vomiting—ringing in the ears and vertigo—thirst and burning at the pit of the stomach—prostration of strength—skin cold—pulse weak and small—secretion of urine suspended—tongue moist, white and cold. The matter vomited or purged is neither alimentary, bilious or excrementitious, but like water in which grain has been boiled, with pieces of opaque whitish or yellowish matter floating in it. The manner in which the discharges take place is peculiar; there is a sudden call, and the whole intestines seem to be at once emptied.

THIRD—Sinking of the countenance more evident—eyes sunk in their sockets and surrounded by a dark circle—countenance collapsed and its expression greatly altered—skin livid, cold and damp—hands and feet corrugated—nails blue—patient feels a *sensation* of heat in his *cold* skin, yet neither Cantharides nor boiling water will blister it. In many cases spasms commence in the hands and feet, like cramp, and stretch up the limbs to the trunk. In other cases the muscles of the belly are principally affected and drawn towards the spine. These spasms are sometimes the first symptoms. The evacuations now, may be frequent or wholly cease. The pulse can scarcely be felt, and the heart beats feebly. When the spasms are severe, they frequently, even though the pulse be quite distinct, stop it during the paroxysm. The same effect is produced by excessive vomiting. The breathing slow and oppressed—voice low and but few words can be spoken at a time without stopping to take breath—breath and tongue cold.

FOURTH—Last stage—extreme collapse—evacuations have most likely ceased—eyes not only sunk but glazed and flaccid—spasms

cease—every artery ceases to beat—the action of the heart, a mere flutter or altogether imperceptible—the whole body bathed in a cold clammy sweat—oppressed breathing and great restlessness. The dying man can still be roused, though apparently in a state resembling stupor, and in most cases is coherent to the last. His unwillingness to say much or answer questions being the result of a want of physical energy, not intellectual failure—asks for nothing but cold water, and to be left to die in peace.

If blood be drawn, it is in the very outset, dark colored, and as the disease advances it becomes blacker and thicker, having no serum in it. In the latter stages the current in the veins has stopped, and the blood is so grumous that it cannot be forced out through even a large orifice, but stands like tar in the incision. The whole course of the disease does not generally exceed sixteen hours; some cases terminate in four hours; others live a whole day without a pulse.

Bell's indication of cure is to relieve the oppressed circulation—stimulate the system—restore the heat of the body—produce a healthy condition of the alimentary secretions and guard against local congestions and reaction.

His treatment is very simple. He bleeds till the blood changes its color; at the same time applies artificial heat, uses frictions over the whole surface, applies sinapisms to different parts of the body, and at the same time gives Calomel and internal stimulants in moderate quantities. His list of stimulants; Opium, Æther, Camphor, Ammonia, Peppermint, Drogue-Amber and Brandy.

His object being to stimulate the system, he advises these remedies to be used in such doses as are known to act as stimuli,—not as sedatives. He considers Calomel in large doses a sedative. Though Opium does not act as a narcotic, as long as it has spasm to allay, he nevertheless considers its use in large doses unsafe; because the spasms of Cholera, not being tetanic, are removed by the restoration of the circulation. The circulation being restored, if there be much Opium in the stomach, rapid typhus ensues, there being now no spasms to neutralize the effects of the Opium.

As liquids are generally rejected, he advises in the first instance a pill, made of 5 grains of Calomel, 2 grains of Camphor and half a grain of Opium every half hour, sometimes oftener, washed down with brandy and water; and as soon as the stomach will bear it, 30 drops of Sulphuric Æther, 10 drops Laudanum and an ounce of Camphor mixture, repeated every quarter or half hour according to the urgency of the case. (Instead of the Camphor mixture, about 30 drops of the Alcoholic solution of Camphor would no doubt be better.) He applies mustard plasters over the chest and abdomen, to the calves of the legs, and to the feet—has the patient rubbed with hot Turpentine, and applies artificial heat by bags of hot sand, ashes, salt or oats. He disapproves of the

warm bath, as it is always *insupportable* to the patient from the sensation of heat it produces, even when the water is below the healthy temperature. He cautions physicians against restricting their attention to the discharges and spasms; as these are symptoms that disappear when the power of the circulation is recovered.

Pathology—Bell considers Cholera a disease in which the due proportion between the venous and arterial blood is destroyed. The venous blood preponderating much more than in health, and continues to do so until not a drop of arterial blood is found in the system. The left ventricle of the heart itself containing nothing but black or venous blood, as proved by dissections. There are three powers in the system or distinct circles of action, the sensorial, respiratory and circulating powers; each of which is enabled to perform its functions without the active interference of the others. Cholera Asphyxia is a suspension of the power by which the circulation of the blood is carried on. Hence arterial action ceases, animal heat sinks, and secretion ends. He believes that the first impression of the morbid cause is made on the ganglionic system of nerves, or the class of nerves to which belong the circulation and distribution of the blood—a class of nerves which largely shares in regulating secretion, and in carrying on the involuntary functions. The preponderance of venous blood being the effect of the heart ceasing to perform its function. The vomiting and purging being secondary symptoms and entirely different from the matters discharged in a common Cholera Morbus, and depending on a very different pathological state of the system. In common Cholera Morbus, the matters discharged are bilious and excrementitious; the skin hot and dry, the tongue furred and parched; and every symptom referrible to the secreting functions of the abdominal viscera and to irritation, consequent on depraved secretions being thrown into the alimentary canal; whereas, in Cholera Asphyxia there is a complete suspension of all secretion whatever. The discharges from the stomach and bowels not being secretions as in common Cholera Morbus, but the serum and fibrin of the blood itself. These evacuations go on *after* the heart has almost ceased to act, when the arteries are *empty*, and when the capillary vessels are no longer supplied with arterial blood. The right side of the heart and great veins being gorged with blood, the capillaries are filled by a retrograde action, and are thus enabled to discharge *by exudation*, the more attenuated parts of the blood, rendering the remainder black and grumous. The cold sweat of death, after the circulation has ceased, or nearly so, is an exudation from the capillary vessels of the skin on similar principles.

Bell's description and pathology of Cholera Asphyxia stand unrivalled; but he has nevertheless left out one important pathological point. The nerves which control the involuntary motions of the heart receive the impression of the morbid cause, and the action of the heart, be-

comes so weak and irregular, it is finally unable to propel the blood. The kind of derangement into which the heart itself is thrown by the morbid condition of its nerves is the pathological consideration, which Bell has overlooked, but which Mr Baird, a surgeon of Newcastle, before the publication of Bell's work, pointed out and proved its existence by the best evidence, although he was unable to account for it, viz: "*that the action of the ventricles of the heart in Cholera Asphyxia is arrested by spasm.*"

With this additional link in the pathological causation, the whole subsequent phenomena of Cholera, so ably described by Bell, cease to be subjects of wonder. The heart being thrown into spasm, the failure of the pulse—the suspension of the healthful circulation of the blood—the cessation of the secretions from the want of arterial blood—the interruption of the evolution of animal heat, as indicated by cold breath and tongue—the livid condition of the skin—the stagnation of the blood in the veins—are all effects, so obvious, as scarcely to require any knowledge of physiology to understand. Why animal heat ceases in a great measure to be evolved, it is only necessary to know, that whether the evolution of animal heat be owing to a secretion depending on vital organism,—or to chemical principles in the transformation of arterial into venous blood,—that, in either case, the circulation of the blood is absolutely essential; and consequently, when the action of the heart,—the propelling power, by which the secretory action is sustained, or the transformation made,—becomes arrested in a greater or less degree, animal heat must in due proportion cease to be evolved; the temperature of the body falls, as proved by the cold tongue and breath. But the patient feels a burning heat in his cold skin, complains of a tepid bath as being scalding hot, and of luke warm drinks as burning his stomach. The reason of this will not be obscure, when we reflect, that cold and heat are relative terms. All bodies, the temperature of which, is above our own temperature, are classed as hot; and all below, as cold. If our temperature were above 96° of Fahrenheit, many substances now classed as hot would be classed as cold; so also, when the temperature of the body is greatly reduced by Cholera, we should not wonder that the patient considers every thing to be hot, which is above his own temperature. Many practical suggestions, in reference to the treatment of Cholera, are necessarily connected with this *new view* of the subject. Giving the patient ice to eat, as is the practice of Professor Brouissais of Paris, is, under the view here taken, as far as I know entirely original, more philosophical, as well as more agreeable to the patient than scalding his stomach with hot drinks. Due allowance should be made in reference to the diminution of temperature, not only in regard to the patients drinks, but the heat of his apartment and the external applications applied to his body. The temperature of a room, which would be pleasant to a person in health, in consequence of being

below his own temperature, would be suffocating to a Cholera patient if above the reduced temperature of his body,—as we all know the oppression we feel whenever the heat of the surrounding medium is ever so little above that of our bodies. Although external heat has been applied to Cholera patients by all manner of contrivances the ingenuity of man could invent, yet it has so far failed to be beneficial in the *pulseless stage* of Cholera, or the stage in which the internal heat of the body is reduced, that but few practical men put any reliance in it, and many have abandoned it entirely, and some have advised cold applications. Heating the *outside* of the body, if it could be effected, will avail but little. The *inside* must be heated. The temperature must be restored by animal, not artificial heat. The tongue and breath must be got warm. Nothing will warm the tongue and breath, nothing will evolve animal heat but the circulation of the blood. When the circulation is impeded or arrested, as in Cholera, between the two systems of vessels containing red and black blood, no measures, which will not restore the suspended circulation, will restore animal heat. Irritating the system with painfully hot applications and burning the stomach with hot drinks and suffocating the patient by making him breath a hot atmosphere, tend rather to enfeeble the heart, the main-spring of the circulation. And consequently, while the heart lies quiescent, all efforts to keep up animal heat, which have no tendency to bring that organ into action, and restore thereby the circulation, will be vain and unphilosophical.

According to experiments with the thermometer on Cholera patients, in the Greenock and other Hospitals in Scotland, even when the pulse was perceptible, but weak and irregular, the temperature of the body under the arm-pit, under the tongue and in the rectum, as well as that of the discharges from the bowels, was found to be generally from six to sixteen degrees below the healthy temperature. After death, however, the temperature of the body was found in the course of two or three hours to rise to the healthy standard of 96° of Fahrenheit, to continue at the healthy temperature an hour or two, and then gradually to sink to the temperature of other inanimate matter of the surrounding medium. A disquisition on the causes of this strange phenomenon, or the causes of the convulsions, which sometimes are observed to affect the dead bodies of Cholera subjects, is foreign to my purpose. The fact, that the temperature of the body rises after death from Cholera, is stated merely as a fact, and because it may have some connexion with another very important fact,—that *the temperature of the body, blood and breath is greatly reduced, long before death, in an attack of Cholera*. This latter fact has been frequently referred to, as one of the symptoms of Cholera and as a matter of curiosity; but no practical deductions, as far as I know, have heretofore been drawn from it.

But to return to the pathological fact pointed out by Mr. Baird,

With the additional fact, that the heart is thrown into spasm, appended to the pathology of Cholera so ably drawn up by Bell, we can readily perceive the reason why, under his practice, "in the course of a few minutes, a patient, from the agonies of Cholera and from the jaws of death, is placed in safety, and not only restored to a sensation of health, but to one of positive bliss." If the heart ceased to circulate the blood from *mere debility*, it is not only difficult to perceive how bloodletting should give it *strength*, but totally unaccountable how bloodletting should, in the course of a few minutes, restore the patient to a sensation of health. But if the pathological fact be admitted, that the heart is unable to circulate the blood because it is in a state of spasm, it is at once evident why bloodletting, one of the most powerful of anti-spasmodic remedies, should have been found by experience to be so wonderfully serviceable. When the condition of the circulation is such, that blood can be abstracted in sufficient quantity, the point is conceded, that it is of itself one of the most powerful curative agents in Cholera. But when the condition of the heart is such, that the *vis a tergo* or power of the heart is gone, a sufficient quantity of blood cannot be drawn, because the moving power of the blood is *fast locked in spasm*. In such circumstances, bloodletting, not being able to relax the spasm and restore the circulation, adds to the general debility of the system. Early in the disease, before the circulation ceases, is the only time when much good can be expected from bloodletting. As Bell was an army surgeon and always on the spot to attack the disease in its commencement, no practitioner, differently situated, ought to expect the same success from the same remedy.

Dr. James Stephenson, who practiced likewise in India affirms "that after the pulse became *imperceptible* at the wrist, a state which a great majority of patients are in when first seen, he *never* succeeded in abstracting blood in sufficient quantity to be of the smallest benefit." The first cases of Cholera that fell under my care, I became fully and deeply sensible of the melancholy fact set forth by Dr. Stephenson. I found a disease in which I was instructed to *bleed freely* or I would lose my patient, yet with half a dozen large orifices open, aided by constant frictions, hot applications and internal stimulants, I was unable to abstract the requisite quantity of blood. I sought in stimulating emetics a means to arouse the circulating power to enable the blood to flow, but found, that however useful emetics were for this purpose *before* the circulation ceased, that after the pulse had been some time imperceptible, the vital energies of the stomach were too far gone to be called into action by the emetic medicines. In this desperate state of things, I resorted to the practice recommended by Mr. Baird, and have every reason, as far as my limited experience goes, to be highly gratified with the result. Mr. Baird, believing the heart to be in a state of spasm, advises the most powerful of all anti-spasmodic medicines; the decoction

of Tobacco administered as an injection. Having frequently, in the course of my practice, in other spasmodic diseases, used this remedy, and knowing from actual and repeated experience, its powers, its safety, and its immediate efficacy when properly managed, I felt the more willing to adopt it in those cases of Cholera which had gone too far for any benefit to be expected from bloodletting; or where this measure was wholly impracticable. The first case which fell under my care, having in vain attempted to abstract blood and to bring back the pulse, which was altogether imperceptible, by external heat and internal stimulants, I administered the tobacco enema, and was greatly rejoiced to find, in a few hours thereafter, that the pulse had returned, the skin had got warm and secretory action had been resumed. The case was then treated in the common way by Calomel to keep up the secretions, and moderate stimulation to sustain the action of the heart; it went on improving under this course until the third day after the Tobacco injection had brought out the pulse. The patient at length from some unknown cause suddenly relapsed into his former state, and before I could see him and resort to the same measure which had formerly relieved him, he expired. As the patient had been intemperate, a post mortem examination discovered considerable enlargements of the mesenteric glands, and an enlarged state of the liver, which might have been the cause of the relapse. The bowels were contracted in many places, and contained several locks, in which one had run into the other like the finger of a glove, called intussusceptions, but were not inflamed, as in the disease called ileus. The veins were full of a black and grumous blood like tar.

On taking out the heart and opening its ventricles, no blood, either arterial or venous, was discovered. In this particular, the tar like appearance of the blood, as well as the absence of active inflammation of the duodenum, stomach or any of the viscera, the appearances on dissection differed but little from those discovered, in post mortem examination, I long ago made in Yellow Fever. The same inflamed tissues were discovered involving the simular ganglion and solar plexus, the centre of the ganglionic system of nerves, which, nine years ago I pointed out, after having dissected more than twenty persons, as being the seat of Yellow Fever.

The next case of Cholera Asphyxia which fell under my notice, I considered too far advanced, though a mild case with strong spasms, either to bleed or to puke, but resorted to the tobacco injections, gave Calomel, Laudanum and Camphor in moderate doses, and the patient recovered. The third case I tried to bleed, and although several large orifices were opened, in defiance of frictions, external heat and internal stimulants, but very little blood could be forced out, the tobacco injection was prescribed, but *not administered*, and the patient died in less than half a day. The Croton Oil and Calomel was also tried in this case.

4th case—Having also an imperceptible pulse, the same practice was resorted to with the addition of a stimulating emetic to make the blood flow. But the emetic would not operate, and the blood could not be got to flow, and the patient died in a few hours.

6th case—I saw the patient in half an hour after the attack, yet his face was as blue as if he had gunpowder flashed in it, his pulse was yet perceptible, but very weak. I gave him an emetic of salt and mustard and bled him; at first the blood dropped out thick and black, but it soon began to run in a stream, and at length became red; he recovered without any more difficulty, on moderate doses of Calomel to keep up secretion, and Laudanum, Camphor and Ammonia to sustain the heart's action.

7th case—I considered too far gone, either to bleed or puke; several things had been administered to him as Laudanum, Calomel, Peppermint, &c., before I saw him, none of which, he could retain on his stomach, but continued to have incessant vomiting of a fluid like rice water, and discharges of a similar nature from his bowels. The tobacco injection was *alone* relied on. But instead of an injection made of half a drachm of tobacco as directed, it was made of a whole drachm and retained in the bowels by pressure. It seemed to depress the vital powers for a few minutes; but in fifteen or twenty minutes after its administration the pulse rose, the vomiting and purging entirely ceased, and the patient's stomach became retentive. As there was considerable cerebral disturbance, as manifested by contracted pupil, the subsequent treatment consisted of Calomel, anti-spasmodics and Ammonia; omitting opiates. In three or four days he was walking about.

As many might be prejudiced against the use of tobacco injections in Cholera on the assumption, that the disease consists in a *feeble action* of the heart, and the action of tobacco on the human system, *in health*, is known to produce, for a short time, a great prostration of the vital powers, I do not deem it necessary to argue the point, or to show to such reasoners that the same objections would apply to *bloodletting*,—or to call their attention to the pathological fact, that neither opium nor tobacco prostrates the vital powers *while it has spasm to allay*; and consequently no argument drawn from its action on the system in health would be conclusive in disease; nor do I deem it necessary to require an explanation of them, why the heart, one of the *strongest muscles* of the body, should in Cholera, on their principles, be affected with nothing more than *mere debility*, and every other *muscle* of the body should be liable to be more or less affected *with severe spasms*; but shall proceed at once to offset their objections to the use of tobacco in Cholera by the most conclusive kind of facts, taken from the practice of Mr. Baird of Newcastle. Facts well observed and faithfully recorded speak the voice of nature, and true philosophy teaches that erring reason should listen and learn wisdom.

Mr. Baird's 1st case—Eyes sunk; lips livid; tongue cold; voice gone; cramps in most of the muscles; pulse at the wrist not to be felt; skin of hands and fingers sudden; nails blue; surface of the whole body completely cold; incessant rice water vomiting and purging. In this condition of the system an injection was given, prepared of half a drachm of Tobacco, with half a pint of boiling water. This was retained in the intestines. In a few minutes the skin became warm, and a clammy moisture was observed upon it; vomited copiously 2 or 3 times. About a quarter of an hour after giving the injection, *the pulse at the wrist was evident*. This was in the morning. It was found necessary to repeat the injection in the evening. Both in the morning and in the evening *reaction* took place after the injection, and the color of the integuments, particularly the lips, became changed to a more healthy hue. Other remedies to act on the secretions were now administered, and the patient got well.

2d case—Pulse imperceptible at the wrists, and barely perceptible in the carotids—tongue and breath cold—strong spasms of the muscles of the abdomen and extremities. An injection containing half a drachm of Tobacco in infusion was administered at 10 A. M. In 15 minutes pulsation became very perceptible at the wrist. The vomiting continued, but the countenance became improved, and the spasms abated; ordered 5 grains of Calomel every hour; 4 o'clock P. M. spasms returned, pulse more feeble. Took away 4 ounces of grumous blood; repeated the Tobacco injection which produced a little faintness, from which the patient soon recovered. 9 o'clock P. M., countenance better, pulse not so good; ordered Castor Oil. Prevented from seeing the case till 11 o'clock next day when she was sinking rapidly and soon expired.

[It would seem to me to be mal-practice to trust the case to Castor Oil and prescribe no stimulant to sustain the action of the heart, or anti-spasmodic as Camphor &c. The bleeding, after the Tobacco had restored the pulse, was also a doubtful expedient. Though the case terminated fatally, it is very evident that the Tobacco had a good effect.]

3d case—January 14. 1832—Patient has incessant rice water vomiting and purging; violent pain in the epigastrium. Pulse very feeble; skin cold and dry; countenance sunk and livid, pain of the head; pupils contracted; has passed no urine for 16 hours; attempted to give him medicine, but it was rejected violently almost before it reached the stomach. Two scruples of Tobacco infused in nearly a pint of boiling water injected. An hour after the injection, the pulse became firmer, temperature increased; the vomiting and purging ceased, and the patient recovered under the Calomel practice.

4th case—January 22, 1832—Aged 39 years, was seized with vomiting and purging on the 19th, and continued up to the 22d, some remedies were tried without any good effect. He looks like a person

60 years of age; eyes languid and red; pain of the head and double vision; voice changed and weak; abdomen, hollow; muscles tense as a board; skin of hands corrugated; nails blue; pulse 80, weak and irregular; intense thirst. An emetic was given, and afterwards a mixture with Ammonia; and took 8 ounces of blood; vomited freely; pain of epigastric region relieved by the bleeding, but returned soon after. Injection of Laudanum.

January 23—I employed the remedies yesterday because so much had been said against the use of Tobacco, and in praise of other means; but this morning I found the patient getting so rapidly worse, that no time was to be lost. An infusion, containing half a drachm of Tobacco, was administered, and pills containing 2 grains of Calomel, and 10 grains of Rheubarb. Also, a little Ammonia and Soda, and Epsom Salts mixed in water was given; his pulse improved and became soft and regular, and the tension of the abdominal muscles was subdued. The color of the skin improved after the injection, and he said he saw better. In about a week he entirely recovered.

5th case—A patient in the Cholera Hospital at Gateshead, admitted 14th January, 1832, was bled and took an emetic, followed by a pill of 1 grain Opium, and 5 grains Calomel.

January 15—One o'clock worse; took Cayenne Pepper and Brandy, soon after, vomiting and cramps returned; Calomel and Opium, and Saline Julep; grows worse; a drink of Nitric Acid and water, and 2 grains of Opium in Saline Julep every 2 hours; vomiting constant and severe; great pain of the stomach; cramps of the muscles and trunk; pulse barely perceptible and *irregular*. Twelve Leeches applied; Tobacco injection is now given. The vomiting ceased soon afterwards; surface became warmer, cramps disappeared, pulse became regular, and the face flushed. On the 18th discharged cured. Other cases of the curative powers of Tobacco are recorded with great minuteness. Mr. Baird states that, "The effects of the Tobacco injection are not alike in all cases, but that they may be looked for in the following succession;—The first change is restoration of the circulation, as evinced by the volume of the pulse and restoration of the livid parts to a more healthy hue. The cessation of cramps next ensues, and afterwards the suspension of vomiting and purging. Last of all, the re-establishment of the biliary and urinary secretions."

Dr. James B. Kirk, who was employed by the Greenock Board of Health, to undertake a mission to collect information on Cholera, informs the Board, that in the horrible symptom collapse, characterized by pulselessness, coldness, loss of voice, terrible purging, and frequent vomiting, and a total cessation of the secretion of urine, he has witnessed in 19 cases, pulsation and reaction, bilious evacuations and increased temperature, follow the use of the Tobacco injections.

He advises in the first place, however; "A large enema of from 3 to

4 lbs. of hot water, as hot as *the hand can bear*, with six ounces of Brandy, and two drachms of Laudanum. After one hour, this enema should be withdrawn by a tube introduced into the rectum. The enema is generally returned very cold, and another hot injection should be used." "Brandy and cold water to be given as a stimulating drink. The second injection to be withdrawn at the end of another hour, and then an injection of a pound and a half of warm water, in which two drachms of common Tobacco has been infused." He says, moreover, that "he has studied the subject with intense anxiety, and watched the practice in various hands, and is bound to declare his conviction that bleeding, in general *impracticable*, is often hurtful, and seldom useful." In the advanced stage of collapse, I fully agree with him, but early in the disease before the heart's action has become too feeble to propel the blood, bloodletting must certainly be valuable. The error and misconception in this point seems to lie in not sufficiently discriminating between the different stages of the disease. He who can see his patients early will succeed by bloodletting, emetics, stimulants, Calomel, Opium, &c.; and he who cannot see them, until an advanced stage of collapse, might be led to doubt the truth or mistrust the reports of the beneficial effects of such remedies. The quantity of Tobacco recommended by Dr. Kirk, is a much larger portion than I would be willing to venture on at one time, and is four times the quantity Mr. Baird used. The method I have employed was to pour half a gallon of boiling water on two drachms of the best James River Tobacco, an ounce of Senna and an ounce of Glauber Salts, and after drawing about half an hour, to strain through a course cloth; one pint of this infusion to be given as an injection every hour or two, until some very evident and sensible effect is produced. The time lost in given the hot water injections mixed with Brandy and Laudanum, recommended by Dr. Kirk, that should precede the Tobacco infusion, would be much too great. The Tobacco was at once administered by Mr. Baird. But while the Tobacco injection is preparing, the enema of hot water, Brandy and Laudanum might be administered, as it is highly recommended by various authorities. The practice advised by Drs. Russel & Barry, the two physicians, whom the British government sent to Russia to investigate the nature of the Cholera, before it had reached the Island, was two table spoons full of table salt to be given in 12 table spoons full of warm water as an emetic, and to be assisted by a moderate bleeding. In the north of England, Mustard was used in place of the Salt as an emetic with great success. Dr. Chapman of Philadelphia, also advises the Salt emetic. Early in the disease, before the heart has ceased to act, or if possible *in the forming stage* of the disease, I should have every confidence in the emetic;—but after the blood has stagnated in the veins, and the heart has ceased to circulate the blood, no good in my opinion, could be expected either from emetics or bloodletting. It

It is very necessary to have correct views of the intention of the emetic. It is not given for the sake of getting up bile, but as a stimulus to arouse the languid circulation, give energy to the heart, and prevent thereby, the blood from stagnating in the veins. I have been credibly informed of five cases of Cholera, all treated by the Salt emetic, and all proved fatal in consequence of the intention of the emetic not being understood; the patients being suffered to vomit, their systems were prostrated by the copious bilious secretion, that the emetic caused to be poured forth. Whereas, the very first mouthful of bile thrown up, or the very first bilious alvine discharges, should have been the signal for arresting the emetic action. The emetic has done all the good it can do when it causes bilious secretion, because it shows that the heart is excited into action, that the blood circulates, that *arterial* blood is distributed to the various organs;—arterial blood being the *sine qua non* of all secretions whatever. But if these secretions be suffered to flow, as in the five cases just mentioned, the system becomes exhausted, as in common Cholera Morbus from the copiousness of the evacuations merely.

The emetic that I prefer is 2 tea spoons full of table Salt, one tea spoon full of Kentucky Mustard flour, 40 drops Alcoholic solution of Camphor, and if cramps, about as much Laudanum, repeated every half hour till it produces the desired effect, viz; *reaction*.

I now come in the third and last place to the measures, which I deem necessary, to prevent Cholera on plantations among negroes, to mitigate its violence, if it should occur, to point out its premonitory symptoms and the treatment necessary, and to enable Overseers to treat the disease until a physician can arrive; or in places where medical aid cannot be had to enable them to act efficiently without it; and moreover to give such a plain description of Asiatic-Cholera as will enable any one to recognize it, and not mistake it for the common Cholera Morbus or other diseases.

MEASURES CALCULATED TO PREVENT CHOLERA ON PLANTATIONS, AND TO MITIGATE ITS VIOLENCE IF IT SHOULD OCCUR.

In the first place, all filth and sources of putrefaction to be forthwith removed. No cotton seed or any other substance should be suffered to heat or putrify, particularly in large masses, or in confined situations. The quarters should be well aired and kept clean. All cloathing and bed cloathing should be sunned and ventilated, particularly after rainy weather. Twice or three times a week, the floors of the houses and all places from which filth and trash have been removed, should be sprinkled with a solution of the Chloride of Lime—a table spoon full of the dry Chloride in half a gallon of water—and a tea spoon full of the dry Chloride may be put on some elevated place in each house. The excessive use of the Chloride is *injurious*—nor should its moderate use, as here advised, be substituted for cleanliness. More reliance should be placed on cleanliness, soap and water and free ventilation to prevent the air around from becoming impure, than on Chloride of Lime or any other chemical agents to purify it afterwards.

Every person should be provided with warm cloathing by day, and a sufficiency of blankets at night to keep him comfortable—sleeping cold is more likely to bring on an attack than exposure to cold when awake. Fires should be allowed at night—negroes are often cold and uncomfortable without fires, when white persons would not need them. No change should be made in the diet that they have been accustomed to live on. But particular pains should be taken by every manager, to see that the provisions are all perfectly sound; that the meal, for instance, be made of good sound corn; and each barrel of pork should be examined, when opened, and not used if the least tainted—none can be relied on but that which is pickled with alum salt. The Kentucky salt contains impurities unfavorable to the entire preservation of pork, for any length of time, in this damp and warm climate. Each hand, before he goes out in the morning, should have a cup of good warm coffee, particularly in cotton picking time, and on sugar estates, in the rolling season.—On those plantations where the pernicious practice of giving morning drams or bitters has been followed, it will be very necessary that the coffee be substituted. Sleeping on the ground or on damp floors, as well as excessive fatigue, all powerful purgatives or whatever greatly weakens or exhausts the strength should be avoided.

COMMON DIARRHŒA A PREMONITORY SYMPTOM OF CHOLERA AND ITS TREATMENT.

Strict orders should be given to each hand to report himself immediately to the Overseer, if taken with a bowel complaint or any unusual disturbance of the stomach or bowels. As many negroes with a bowel complaint, not feeling sick, might from a fear of taking medicine or a dislike to lie by, continue at their work without letting it be known, some one or more of the trusty negroes should be instructed to notice the others in this particular, and give information of any bowel complaint that they may find any of them, old or young, to be afflicted with. If the bowel complaint be bilious, one dose of Calomel followed by Castor Oil may be sufficient; but if it be attended with watery or whitish discharges, it will be necessary to give small doses of Calomel, say five grains, three or four times a day, either by itself in molasses, or, if much griping, mixed with about half as much Ipecac, also in the mean time to give about 20 drops of Laudanum and 20 drops of the spirits of Camphor, (the Alkaholic solution) after every copious, watery or colourless operation. If the operations should be suddenly checked, a dose of Castor Oil or Rhenbarb should be given to operate on the bowels. If, after the Oil or Rheubarb moves the bowels, the operations be not bilious, more Calomel will be required.

In obstinate cases of bowel complaint, an emetic of Ipecac, with a small bloodletting, will be serviceable. In Paris, where much prejudice prevails against Calomel, an emetic of Ipecac is advised by the French physicians, and is said to answer even a better purpose in preventing the bowel complaint from running into Cholera than any other remedy. If no fever attends, or no great weakness, the patient had better walk about or do light work, which will be better than being kept confined in the house; and if confined by bad weather, some in-door work to engage the attention and keep the blood in circulation will be better than absolute rest. But it should not be carried to the extent of producing fatigue, nor should the patient be suffered to go out, if the air should make him feel cold and chilly. Thus far I have considered the means of treating a bowel complaint, simply as such, unconnected with any general disturbances of the system of a *peculiar* character. It is however a premonitory symptom of Cholera, and if unattended to, is very apt to eventuate in that disease. It often stops of itself, if no remedies be used, a day or two before an attack of Cholera. But if it be cured by the *evacuating* plan as above advised, there is no danger of Cholera ensuing. Laudanum or such medicines as bind the bowels, if used at all, must be used in connexion with evacuating medicines. The former are only employed to relieve urgent symptoms, as pain, cramps, copious or frequent discharges, but the latter must be relied on to cure the complaint.

A PECULIAR DIARRHŒA OR BOWEL COMPLAINT, WHICH RUNS IMMEDIATELY INTO CHOLERA AND ITS TREATMENT.

Although a common bowel complaint may lead to Cholera, or may not, yet there is another bowel complaint leading directly and immediately to Cholera within a few hours or a day or two at most. It is attended with a remarkable change in the expression of the countenance, giddiness of the head, ringing in the ears, sickness at the stomach, slight twitching in the hands and feet, or about the mouth, painful sensation in the muscles or flesh, coldness of the feet and hands, cramps in the fingers and toes, and weakness of the pulse; while the operations from the bowels are copious and *sudden*, pale in color, and unaccompanied with much, if any, griping. Such a bowel complaint is not only *premonitory*, but it is *Cholera itself* at work in the system, ready to break out in all its violence. But this bowel complaint is almost as much under the control of medicine as the former. The same medicines will cure it if they have time to act. The time however for the action of medicine is not only *shorter* than in the former, but the stomach is more *torpid*; and hence it would require even a *longer time* for the same things to act on the system. Calomel, for instance, if given *alone*, lies in the torpid stomach, and does not move down soon enough to act on the liver and produce bilious operations. But this difficulty is easily overcome by uniting the Calomel with such medicines as will *warm* the torpid stomach, and give the Calomel an opportunity of passing down and acting on the system.

In such circumstances, Mr. Baird of New Castle upon-Tyne advises the Calomel to be given, followed by Magnesia and Rheubarb united with Ginger, Camphor, Cloves or some warming or aromatic drug; and at the same time to apply warm applications to the skin, and wrap the patient up in warm blankets to produce perspiration. Dr. Eastman of Canada treated this kind of diarrhœa with very great success, by what appears to me, to be a very rational method. Immediately on its appearance, he gives 20 grains Calomel, 1 grain of Opium, and a tea spoon full of finely ground Ginger;—and 30 or 40 grains of the extract of Catechu, with a tea spoon full of Paragoric after every colourless operation. The Catechu, being a powerful astringent, checks the discharges, saves the patient's strength, makes the disease pause, and thereby *time is gained* for the Calomel to act on the system; and the Ginger, by warming the stomach, *accelerates* its action. But it should be borne in mind, that the discharges in Cholera are *the effects* of the disease, *and not the disease itself*. But they weaken the patient and hurry the disease on; by arresting them, *time* is gained for other medicines to cure the disease. To rely on astringents, we would only procrastinate.

nate the patient's fate—but to banish them entirely, we would expose his life to an unnecessary risk.

A plan, however, which is said to have succeeded admirably in New Orleans, was 25 grains of red Pepper, and 12 1-2 grains of pulverized Camphor, combined with Calomel, in pills. The quantity of Calomel used was only 8 1-3 grains for a dose, made into five pills with the Pepper and Camphor, by means of Gum Arabic. I saw these pills have a good effect in an inceptive case of Cholera, after the patient had vomited a large pill of Calomel, which had been on his stomach several hours;—proving the necessity of something besides the Calomel to stimulate the stomach into action. The Calomel, with about 10 grains of Pepper and 5 grains of Camphor, should be repeated in two hours after the first dose. Chamomile tea to drink in small quantities is also advised. Flaxseed, Slippery Elm or Gum Arabic water might also be used to allay the burning of the stomach. I see no reason why the Calomel, Camphor and Pepper might not be given to negroes mixed in a spoon full of Molasses; as it is much more difficult to get them to take pills than white persons. The best plan to give them pills, however, is to make the sick negro lie on his back, and hold a swallow of water in his throat, the mouth being opened, without swallowing the water, the whole number of pills should be rolled down to the root of the tongue, and the pills and water in the throat swallowed together. All pills, made with Gum Arabic, get too hard to be easily dissolved in the stomach, if kept long before use. The Camphor cannot be rubbed into powder unless a little spirit be first dropped upon it. In addition to the above medicine, warm applications are advised to the surface, and rubbing the patient by introducing the hands under the covering. I would also advise 30 or 40 grains of Catechu with Landanum and Camphor after each colourless operation. If sweat be not produced, nor relief obtained, or if vomiting should come on, it will be necessary to bleed the patient and proceed with the treatment about to be recommended for Cholera itself. It is true that Dr. Cannon of New Orleans is said to have cured a great many cases of Cholera by the above, pills, assisted by frictions with the irritating Citron Ointment to the hands, feet and back, carried on by four or five persons rubbing at the same time, the application of a Mustard plaster to the stomach, and then covering the patient with warm clothes, and giving him Chamomile tea to drink in small quantities at a time. He gives a particular formula for making the ointment; but it can be obtained from any Apothecary by inquiring for the *Mild Citron Ointment*, prepared with half the quantity of Mercury, directed in the preparation of that ointment, and an ounce of pulverized Red Pepper, and the same quantity of pulverized Camphor well mixed with each half pound of the ointment. When prepared with 4 parts of Nitric Acid, and 1 part of Mercury, the ointment is very *irritating*; whereas, the manner of preparing it for common use by 2 parts

of acid, and one of mercury is entirely a different remedy, having little or no irritating properties whatever. I have never used the ointment, but I am disposed to think well of it as a means of irritating the skin in Cholera,—as the Colleges, many years ago, have stricken it from the list of ointments, and advised a milder preparation, on the very account of its irritating the skin too much.

Although the application of this irritating substance and the use of Calomel, Pepper and Camphor might be very good in the incipient stage of Cholera, or even in the milder forms of the disease, yet it would be like trusting to a broken reed to rely on this practice in the violent form of Cholera. What good could be expected from any ointment to irritate the skin, when boiling water itself will not blister it? What reliance on the preceding or any other pills, if immediately rejected by the stomach as soon as swallowed? In medicine, as in other things, he who believes in all he hears, and he who believes in nothing, however well authenticated, not comporting with his pre-conceived opinions, are alike certain to fall into error.

A SUMMARY OF THE PRACTICE ADVISED FOR THE PRE-MONITORY SYMPTOMS OF CHOLERA.

The bowel complaint is to be cured by Calomel, or such medicines as evacuate;—in the mean time pain, cramps and excessive discharges, or such as would weaken the system, are to be restrained by Laudanum and Camphor. But if the diarrhœa or bowel complaint be accompanied with general disturbances of the system, threatening to run speedily into the Cholera, then warming medicines, as Pepper, Camphor, Ginger, &c. should be added to the Calomel to hurry on its action, and astringents to arrest the discharges in order to gain time; also, at the same time warm applications to the skin, frictions, and such means as will warm it and bring on perspiration. The skin being warm and moist, the liver secreting bile, as manifested by bilious discharges, and the kidneys urine,—it is impossible for Cholera to get a foot-hold in the system.

REMARKS RELATING TO THE REMOVAL OF NEGROES IN THE EVENT OF CHOLERA THREATENING TO BE- COME EPIDEMIC AMONG THEM.

If Cholera, from the neglect of the premonitory symptoms, should nevertheless break out on plantations among the negroes, it will be necessary to consider the propriety of removing or scattering them, in order to prevent further attacks, and to mitigate its violence. On large estates where there are from 50 to 100 hands, if living in confined and ill-ventilated quarters, occupying but a small space of ground, the propriety of removing or scattering them on different points of the plantation would be less questionable. Even the common shelters, erected on most plantations in the cotton fields, would answer the purpose of a temporary habitation for some of them, if fitted up a little. With good fires and a plenty of blankets to cover them, there would be no danger of their suffering in a pure and fresh air, however cold. On the Cholera Steam-Boats, the open decks and guards-ways were found to be safer places for negroes, than apartments hung around with blankets excluding the fresh air.

If removal be determined upon, all low and damp situations should be avoided, as well as the necessity of sleeping on the ground. Should the houses, to which they may be removed, have no floors, temporary births near the fire, and some feet from the ground, could easily be constructed. But any thing like a precipitate removal under any circumstances should be avoided. The propriety of a removal at all is predicated on the habits of the disease confining it, sometimes, to a particular part of a city, camp or district, while those residing ever so little beyond the tainted district are safe from an attack;—and on the additional circumstance that the cause of the disease, when brooding over a district of country, gathers strength and malignity from any local impurity of the atmosphere. I think it most probable, that the cause of the disease is a *non-electric meteor* unable of itself to do much mischief, unless it meet with a high degree of impurity in the atmosphere of a district town, house or room.

CAUTIONS WITH REGARD TO DELAY IN CHOLERA, AND A BRIEF DESCRIPTION OF THE DISEASE.

Whenever a case of Cholera occurs, treatment should be commenced without the loss of a moment's time. If any doubts be entertained,

whether it be a case of Cholera or not, it had better be treated as such—particularly if the disease be in the neighborhood. Coldness of the tongue and breath, a very weak pulse, or no pulse at all, cold skin, cramps in the limbs or stomach, and the purging and puking of a fluid like rice water are the symptoms by which it is certainly known. But it should be remembered, that in proportion as these symptoms are developed, the danger increases; and that they cannot continue, in most cases, even a few hours unchecked, before the case becomes desperate or hopeless. Whether the disease begins slowly or abruptly, the time for action is the *onset*. In this disease, whether it comes on abruptly or insidiously, *the heart flags in its action*, as manifested by a weak and often an irregular pulse, which grows weaker until it finally vanishes. As the heart's action becomes more and more impeded, the stomach gets more torpid, the skin colder, pulse more feeble, and coldness of the breath and tongue at length begins. The vomiting and purging continuing, the heart soon loses its power to circulate the blood. Up to this time there is great apparent weakness, but the weakness is of the indirect kind—in other words there is a congestion or stagnation of the blood in the veins. But this state cannot continue long, before a state of direct and absolute prostration comes on, in which no blood will flow from the veins, and no medicines of ordinary powers, will act on the stomach, liver or skin. But before this extremely perilous state occurs, before the pulse is entirely gone, which seldom happens in a shorter period than three or four hours from the commencement of the disease, is the time to act, and the greater will be the prospect of success the sooner treatment is commenced.

DIFFERENCES BETWEEN ASIATIC CHOLERA AND COMMON CHOLERA MORBUS POINTED OUT, TO ENABLE OVERSEERS AND OTHER PERSONS TO DISTINGUISH THE ONE FROM THE OTHER, AND ACQUIRE A GENERAL IDEA OF THEIR TREATMENT.

In Asiatic Cholera the discharges are not bilious. There is no bile made—no urine made—no part does its duty—every part is torpid and cold, as if it were dead or nearly so. The matter thrown up from the stomach looks very much like that which passes off by the bowels, being thin and watery—scarcely colored at all. But in common Cholera

Morbus the discharges are bilious, and assume all colors from yellow to black. The bile is made in too great quantities. The liver is not torpid, as in Asiatic Cholera, but both it and the lining membrane of the stomach and bowels are more active than in health. The liver, stomach and bowels are all in a hot and angry state, and manufacture *hot and acrid fluids* mixed with vitiated bile. To cure common Cholera Morbus, if there be any substance, as undigested food, in the stomach or bowels irritating these parts, we get that away, and appease these *angry* organs by Opium, mucilage, cooling drinks, &c. This puts an end to the copious discharges of vitiated bile—Calomel, Oil, and such things are then given to cause the liver to make a better and more healthy kind of bile, and the disease is cured. But in Asiatic Cholera, when we get the liver to making bile, the patient is in a fair way to get well. In the common Cholera the liver works too hard, but to a bad purpose, and weakens the patient;—But in Asiatic Cholera, it refuses to act at all. In common Cholera we have to make the liver act more leisurely, and do its work better; but in Asiatic Cholera, we have to use every means to make it do any thing at all, and the blood must be made *to circulate*, to give it the material to work upon. When it once begins, we have to regulate its action and keep it from doing too little or too much.

TREATMENT FOR THE FIRST STAGE OF CHOLERA.

A tea spoon full of Kentucky Mustard Flour, two tea spoons full of table Salt, and 40 drops of Spirit of Camphor should be mixed in a cup of water, and given to the patient at one draught. A few minutes after which, a vein in the arm to be opened, and while the blood is running, or dropping out,—for in this complaint, when fully formed, the blood at first will not run except in drops,—the hands, arms and legs should be gently, but briskly, rubbed with dry Mustard Flour. Presently the patient will begin to vomit, and the blood will run more freely, will get thinner, change its color, and come out in a full stream. This is the signal for stopping the bleeding. It is the signal for stopping the vomiting also. Laudanum, the Spirits of Camphor and Aromatic Spirits of Hartshorn, of each about 30 drops, should be given every half hour or hour, until the vomiting ceases,—or after each spell of vomiting. But there is another signal for stopping the vomiting, which is the ap-

pearance of bile. Therefore, whether the patient bleeds freely or not, as soon as the matter vomited becomes bilious, the vomiting must be arrested. The emetic has done all the good it can do, and will now do harm, if it continues to operate. A great point is gained. The liver has commenced manufacturing bile; whereas, during the dangerous period of the disease, there is an entire stop put to the manufactory or secretion of bile, urine and all other fluids. These fluids, in Cholera, cannot be formed, because the heart ceases to distribute the arterial blood, the raw material, out of which they are all manufactured. The rice water vomiting and purging being nothing more than a *leaking* from the small and distended vessels of the living membrane of the stomach and bowels, analagous to cold sweat. The appearance of bile, in the vomited matter, is a certain sign, that the heart is distributing arterial blood. But if the bile be suffered to flow too freely, the mere evacuation will weaken the system, debilitate the heart, and undo all the good that has been done.

Instead then of letting it flow, it should be arrested by Laudanum, Camphor and Hartshorn, or by Mint Julep and Laudanum, or pills of half a grain of Opium, and 8 or 10 grains of Calomel. After which the action of the heart should be sustained and prevented from flagging by stimulants in suitable doses—say Spirits of Camphor and the Aromatic Spirits of Hartshorn of each 30 or 40 drops, every half hour or hour or two, as the pulse may indicate. The weak pulse and cold skin requiring constant, but regular and gentle stimulation, the warm skin and full pulse requiring no stimulant. Calomel should now be commenced with, as it keeps the liver in action, and does not generally produce such copious evacuations as to weaken the system—a moderate action of the liver facilitates the circulation of the blood, and gives vigor to the heart, enabling it to distribute the blood without the aid of stimulants; but all excessive discharges *robs the heart of its energy* and weakens the system. Should the Calomel produce very copious operations, thin or frequent, about half a grain of Opium ought to be added to each dose; and Laudanum and Camphor after each thin or copious operation. A good stimulant to sustain the action of the heart is equal parts of Spirits of Camphor and Laudanum with 8 or 10 grains of Quinine in each ounce of the mixture.—Dose a tea spoon full—or a tea spoon full of the tincture of the Prickly Ash bark mixed in a little Soda water, or a weak solution of the Salt of Tartar.

Should the first dose of Mustard, Salt and Camphor not operate in half an hour, it should be repeated, but if the blood be got to flow freely, it need not be repeated, although it does not vomit at all. It is given not for the purpose of getting up any thing in the stomach, but to arouse the circulation. If much cramps of the stomach, either before or after giving the emetic, 40 or 50 drops of Laudanum should be put with the emetic or given afterwards.

SECOND STAGE.

If the vomiting does not make the blood flow freely, aided by stimulation and rubbing, it will be necessary to adopt other measures and abandon all further efforts to abstract blood. An injection of a quart of warm water, as warm as the hand can comfortably bear it, with 8 or 10 table spoons full of Brandy, and 2 tea spoons full of Laudanum in it, should be immediately given and retained in the bowels awhile by pressure with a compress.

In the mean time a Tobacco injection should be preparing. A half gallon of boiling water should be poured on two drachms of good James River Tobacco, and an ounce of Senna and Salts—after standing, from 15 minutes to half an hour, it should be strained through a coarse cloth, and one pint should be administered as an injection, every hour or two, until the cramps subside, or bilious vomiting, or bilious operations by the bowels take place, or until the pulse rises. After which the further use of this remedy might be prejudicial, particularly if it produce much giddiness of the head. In general it is best, if it operates much, to follow it up by an injection of a tea spoon full of Laudanum in a wine glass full of starch gruel. Should the patient not be seen until the pulse has become imperceptible, or nearly so, instead of making fruitless efforts to *bleed or to puke him*, which would only tend to exhaust him the more, I would advise the Tobacco injection to be forthwith administered, and the re-action it brings about to be nourished and sustained by Calomel, Opium and Camphor pills; frictions over the surface by Mustard; and a regular use of the Aromatic Spirits of Hartshorn and Camphor; the Laudanum, Camphor and Quinine mixture; or the saturated tincture of Prickly Ash in tea spoon full doses, mixed with 30 or 40 drops of the Spirits of Camphor, and 15 or 20 grains of the Salt of Tartar or Soda in a cup of water, and repeated every hour or two. The Prickly Ash is a very powerful stimulant, and is the efficient article in a favorite popular prescription for Cholera. Many years ago it was used with great success in the West Indies, for a disease, somewhat like Cholera, vulgarly called the dry-belly-ache. The irritating Citron Ointment, before alluded to, might also be serviceable, rubbed briskly on the hands, feet and back. Many writers on Cholera place great reliance on irritating applications to the spine. Some go so far as to advise the application of a red hot iron to different parts of the spine. But the evidences of its utility are not sufficient to warrant a resort to, so cruel a remedy.

COLD WATER AND HOT APPLICATIONS.

Cold water should be allowed in small quantities in any stage of the disease. External heat, by means of bottles filled with hot water or hot bricks or bags of hot ashes, sand or oats may be very advantageously used *before* the circulation gives way to aid in *supporting it*, or *after* the circulation is aroused, to aid in *maintaining it*. They then feel agreeable to the patient, and tend to equalize the circulation and heat of the body. But if resorted to when the circulation of the blood is so languid, that animal heat is not evolved, as evinced by cold breath and tongue, and when the body is *writhing* under the most painful oppression and sensation of heat, I am convinced that the application of external heat, then so *aggravating* to the sufferings of the patient, is not only useless and a waste of time, but positively injurious by debilitating the energies of the heart. In this condition of the system, as I before said, heating the out-side of the body will do little or no good; the inside must be heated, and nothing will warm the tongue and breath but the circulation of the blood. From the circulation of the blood the internal or animal heat is derived.

The best rule as it respects the application of external heat would be to consult, in some degree, the *feelings* of the patient. If hot applications be comfortable to him, or are tolerable, they should be used, but if found to be oppressive and intolerable, the patient should not be tormented with them. The same may be said of warm drinks, and the temperature of his room.

CONVALESCENCE.

After the circulation is fully re-established, as manifested by a full pulse, warm breath, tongue and skin, the evacuation of bile and urine, the Cholera may be said to be cured. It is only necessary to maintain this state of things, by moderate measures for a while, until the system recovers from the shock and derangement induced by the complaint. In some instances, after the Cholera is cured, fever or reaction takes place, which requires moderate evacuating medicines to reduce. In other cases a kind of typhus or nervous fever ensues, or the brain or liver may fall into disease. Calomel, in general, would be the safest medicine to be given in such cases until medical advice can be procured.

INDICATION OF CURE WHICH THE PRECEDING TREATMENT IS INTENDED TO FULFIL.

Such are the means I would advise to excite the action of the heart, bring back and fill out the pulse, restore the action of the liver and kidneys, warm the skin, relieve the cramps and arrest the rice water vomiting and purging. In the treatment of Cholera, it should be recollected, that there is only *one* main indication to be fulfilled, or point to be gained, which is the key to the whole system of practice in this disease; if we can succeed by any means in fulfilling this principal indication, the patient will recover; if we cannot fulfil it, he will die,—it is *to keep up the circulation and prevent the blood from stagnating in the veins*. The disease consists in a constant tendency to a failure of the circulation, and all its fatal symptoms are based upon this failure. In most other diseases, the circulating system has too much power, and requires to be reduced, but in Cholera, this system has too little power, which must be increased and sustained, or it rapidly loses all power whatever. In consequence of the disease consisting, so essentially, in a failure of the circulating system Pulseless Plague would be the most appropriate name for it. This name would also embrace a disease, which for several years past has occasionally appeared in Canada and New-England. It has been called the Cold Fever, Spotted Fever and Typhus Syncopalis. Dr. Beadle of Upper Canada, and Dr. Miner of Connecticut corresponded with me some years since relative to that affliction. On referring to their private letters, I find that the Cholera, in its essential symptoms, as pulselessness, coldness &c., resembles more nearly the disease described by them, than any other malady whatever.

CAUTIONARY REMARKS TO THE PUBLIC IN THE EVENT OF CHOLERA BECOMING EPIDEMIC.

The history of the disease proves, that it is well calculated to impair, for a time, the confidence of the public in the medical profession. The first cases which occur in a place are the most malignant, and fall upon broken down constitutions; physicians are often not called in until the patients are probably in a hopeless state.

The public, when excited, judging by the event, without a due consideration of circumstances, are too apt to lose confidence in their physi-

cians, if unsuccessful in their first efforts. And consequently, great numbers fly to quacks, popular prescriptions and nostrums for safety, and die of remediable attacks of the disease, while the few which recover are brought forward as so many witnesses against the medical profession. If medical men alone felt the effects of popular distrust, they might safely await the future decision of that tribunal, which, when it has sufficient time for reflection, and all the facts fairly before it, will render a just verdict, and can do no wrong—*the tribunal of the people*. But in the mean time, before this great conservative principle in human nature, can be brought into action, much evil may ensue to the people themselves. In Paris and many other places, many lives were unnecessarily lost from the foul suspicion that physicians were agents employed to administer poison. They were however not only acquitted by the deliberate and dispassionate verdict of the public, but were soon looked to, with hope and confidence, as the men, best qualified by their pursuits and medical knowledge to mitigate the evils of the pestilence.

In this country there is no danger, that any portion of the community, however unenlightened, will fall into so gross an error, but from the mortality of the disease on its first appearance in a place, and from the multiplicity of measures and means recommended by different physicians, apparently so contradictory, *a portion* of the public might have their confidence, for a time, shaken in the medical profession and forego its advantages. Although a blind routine practice, regardless of its success, should be condemned in any medical practitioner, yet that physicians may honestly differ in their practice and still do great good is very evident, when it is recollected, that the means to counteract the constant tendency to a failure of the circulation in Cholera are almost *infinite*. Therefore, so far from the variety of treatment, recommended for Cholera, being a proper subject of reproach to physicians, or a sufficient cause to withdraw public confidence from them, it displays the wonderful resources of the healing art, and the bounty of nature in furnishing means, so vast and various to combat evil, that science is not restricted to *any one* set of agents to accomplish *any one purpose*, but has *free choice* amidst the vast profusion.

Even the apparently contradictory measures of abstracting blood, and of injecting saline fluids into the veins, are both intended to accomplish the same great end of enabling the heart to circulate the blood. Calomel and other medicines, which act indirectly in maintaining the circulation, by keeping up the action of the secreting organs; the Tobacco injection and the various anti-spasmodics, which relieve spasm, and give the heart an opportunity to circulate the blood; and the long catalogue of stimulants, which give it vigor and prevent it from falling into a state of collapse or spasm, are all so many means, though acting differently, yet tending to fulfil the all important indication of preventing the blood from stagnating in the veins by keeping up the circulation. Amidst

such a great variety of resources, sound judgement and professional knowledge are certainly desirable, if obtainable, in order to adopt such measures as would be most appropriate to the circumstances attending each case. But, as Cholera is said to be invariably fatal, unless remediate means of some kind or other be resorted to, the fear of doing wrong, by giving the wrong medicine, should deter no member of the community from trying to arrest the progress of this rapidly fatal disease. Doing nothing, so often the best practise in other diseases, for those who are unacquainted with the subject, is not advisable in a case of Cholera. By resorting to such remedies as his judgement may approve, although not the best the case might admit of, a bystander would give the patient a chance for his life. Whereas, by leaving the disease to itself, the patient would have little or no chance at all.

As Cholera will probably continue to appear and re-appear in different places in the United States, for some length of time to come, it may be well to observe, that its treatment will have to be conducted with due regard to the season of the year, local peculiarities and the varying character which other diseases may assume.

In all wide-spread diseases, the particular remedies, which have been found efficacious in one place, or in one season, or under certain circumstances, have often failed to be equally so in other places, seasons and circumstances. Thus in cold weather, when inflammatory complaints are prevalent, bleeding will have a more decidedly beneficial effect, than could be expected from it in very hot weather, in confined situations, or when fevers of a nervous character are prevailing.

This tract has been drawn up in haste,—it is however, on a subject I have considered with deep attention. It is now published under a conviction of the great responsibility the individual assumes, who undertakes, probably without possessing the requisite information, to become a public adviser on so important a subject. Should it be serviceable to the public in enabling any of them to escape the pestilence,—to check it in its stage of incubation in the form of diarrhœa and banish it,—or to assist their judgement, at this crisis, when they would seem to need the counsel and support of the medical faculty in the selection of suitable remedies to arrest its progress, should it occur in their families or among their servants,—my purpose will be accomplished.

APPENDIX.

List of Medicines and things necessary to have always at hand on Plantations, with the necessary quantities for establishments containing from 40 to 60 individuals, viz:—

- 1-2 a dozen or more vials of Kentucky Mustard-Flour,
 - 1 Good Spring and Thumb Lancet.
 - 6 Oz. Alcoholic solution of Gum Camphor.
 - 6 Do. Aromatic Spirits Hartshorn.
 - 6 Do. Laudanum.
 - 6 Do. Alcoholic Tincture of Prickly Ash.
 - 1 Do. Essence Peppermint.
 - 2 Do. Salt of Tartar (in vial.)
 - 2 Do. Super Carbonate Soda (in vial.)
 - 6 Do. Spice Syrup of Rhubarb.
 - 6 Do. Pulverized Rhubarb
 - 2 Do. Finely Pulverized Ginger.
 - 2 Do. Pulverized Gum Camphor.
- 1-2 Do. Pulverized Opium.
 - 2 Do. Pulverized Red Pepper.
- 60 Grains Quinine.
 - 1 Oz. Extract of Catechu.
 - 2 Do. Calomel.
 - 1 Bottle Spirits Turpentine.
- 2 or 3 Packages containing each 2 drachms of best James River Tobacco, an ounce of Senna, and an ounce of Glauber Salts—each being marked Ingredients for 4 injections.
- 1 Minim measure, Weights and Scales, Small Mortar and Pestle.
- 1 Large Syringe holding at least a pint, in first rate order— 1 lb. of the Irritating Ointment of the Nitrat of Mercury, prepared like the mild Citron Ointment, but with half the quantity of Mercury, and having 2 ounces of Red Pepper, and the same of Gum Camphor added to each pound.

